

never more than scabrous above, the almost wholly glabrous rachis, the fewer-flowered and smaller spikelets and in the glumes which are acutish or short-mucronulate instead of acuminate. It also somewhat resembles *A. pungens* (Pers.) R. & S. from which it differs in the narrower, more involute and slightly shorter leaves, the less dense and not four-sided inflorescence and the fewer-flowered, somewhat less compressed spikelets.

BOSTON, MASSACHUSETTS.

### A NEW JUNCUS FROM CAPE COD.

M. L. FERNALD.

*JUNCUS pervetus*, n. sp., radicibus, rhizoma, culmis et foliis ut apud *J. Roemerianum*; culmis teretibus vel compressis rigidis rectis vel tortis 0.6–1 m. altis; inflorescentiis terminalibus vel pseudolateralibus supra compositis 2.5–10 cm. longis 2.5–6.5 cm. diametro, ramis rigide adscentibus vel divergentibus; capitulis 10–30-floris subsphaericis segregatis; floribus circa 2 mm. longis interdum unisexualibus; sepalis petalisque subaequalibus pallide fuscis vel albescentibus oblongis obtusis membranaceo-marginatis, sepalis subcarinatis; staminibus 6 interdum abortivis, filamentis antheram aequante; fructo exserto 3 mm. longo ovato-prismatico subulato-attenuato nitido stramineo vel rufescente, placentis non crassatis; seminibus 0.4–0.6 longis anguste obovoideis apice obtuse mucronatis basi breviter albido-caudatis.

Roots, rhizome, culms and leaves as in *J. Roemerianus*: culms terete or compressed, rigid, erect or twisted, 0.6–1 m. high: inflorescences terminal or falsely lateral, much branching, 2.5–10 cm. long, 2.5–6.5 cm. in diameter; branches rigid, ascending or divergent: heads 10–30-flowered, subspherical, scattered: flowers about 2 mm. long, sometimes unisexual: sepals and petals subequal pale-fuscous or whitish, oblong, obtuse, with membranaceous margins; sepals somewhat carinate: stamens 6, sometimes wanting; filaments equaling the anthers: fruit exserted, 3 mm. long, ovate-prismatic, subulate-attenuate, shining, stramineous or rufescent; the placentae not thickened: seeds 0.4–0.6 mm. long, narrowly obovoid, bluntly mucronate at apex, with a short white caudate appendage at base.—MASSACHUSETTS: brackish swale, Hyannis, August 29, 1909, *E. W. Sinnott* (distributed as *J. articulatus*, var. *obtusatus*); forming a dense swale for a few rods only at the peaty upper border of a brackish marsh, east side of Lewis Bay, Yarmouth, October 14, 1916, *M. L. Fernald & F. K. Butters*, no. 15,064 (TYPE), also in *Plantae Exsiccatae Grayanae*.

It is not improbable that Dr. Sinnott's station is identical with ours, the plant being excessively local and seen during three days of exploration only on one marsh, very near the Sinnott cottage in West Yarmouth, at the outskirts of the village of Hyannis.

In many characters resembling *J. Roemerianus* which, however, differs in the following essential points: more lax inflorescence with the heads only 2-6-flowered; perianth 3-3.5 mm. long, with acute sepals; filaments much shorter than the anthers; capsule only about equaling the perianth, obtuse and merely mucronate; placentae thickened; seed 0.75 mm. long, without caudate appendage at base.

*Juncus pervetus* is one of the many remarkable species of worldwide affinities which are being so frequently discovered on the coastal area of southern New England and southeastern British America. It belongs to a unique subgenus, *Junci thalassii* of Buchenau, characterized by rigid texture, usually bladeless lower sheaths, culm-like rigid pungent cauline leaf with continuous pith (not septate), and very branching usually rigid inflorescences bearing the flowers in heads. Thus, to compare these plants with familiar examples, they combine the habital characteristics of *J. balticus* or *J. effusus* with those of *J. militaris*. This unique subgenus has, besides the newly discovered *J. pervetus*, six species all of saline or subsaline habitats and with a disrupted range which indicates that they are remnants of an ancient group. *J. acutus* L. or one of its varieties occurs in the Atlantic and Mediterranean regions of Europe and northern Africa, the coasts and steppes of southwestern Asia, the Atlantic Islands (Madeira, Azores, etc., and Bermuda), Cape of Good Hope, the coast of California, southern Brazil, Uruguay, Argentina, Chile and the Islands of Juan Fernandez off the coast of Chile. *J. Cooperi* Engelm. is known only from saline regions of California and Nevada; *J. Roemerianus* only on the coast from Virginia to Texas; *J. austerus* Buchenau only from Chile; and *J. Kraussii* only from South Africa; while *J. maritimus* Lam. is widely but interruptedly dispersed: on the Atlantic and Mediterranean coasts of Europe, southwestern Asia and northeastern Africa, Cape of Good Hope, the Azores, Bermudas, Brazil, Australia, Tasmania and New Zealand, with its only station on the North American coast on Coney Island, New York.

It is thus evident that *J. pervetus* belongs in a subgenus of highly localized and presumably ancient species which were once widespread but are now reduced to scattered and often quite dissociated areas. That the plant is excessively local on Cape Cod will be evident from

the fact that, having detected the species in Dr. Sinnott's collection, now in the Herbarium of the New England Botanical Club, the writer and other members of the Club spent two days in June last, in the neighborhood of Hyannis with the plant especially in mind but without detecting it; later, in September, ten members of the Club watched without success for it during a two-day field-trip; on October 7 and 8, Messrs. Butters, St. John and the writer devoted two long days to a systematic search for it in many of the brackish swales in southern Barnstable and Yarmouth without success and on October 14, when the plant was finally found, it was in only one very limited station, a few rods long and perhaps a rod wide at the upper margin of a marsh, where the deeply creeping tough rootstocks extended on the one side into brackish or even saline marsh, on the other into acid peat. In this very restricted station, however, the plant was so prolific as quite to exclude all other species from the limited area.

We now know on the Atlantic coast of North America three of the seven species of the *Junci thalassii* (four if we include *J. acutus*, var. *Leopoldii* of Bermuda); two of them from only a single restricted station each: *J. maritimus* on Coney Island; *J. pervetus* on Cape Cod. That other stations along the Atlantic seaboard should be expected is apparent and it is hoped that this extended notice may result in their discovery. In the past *J. acutus*, *J. maritimus* and *J. Roemerianus* have been credited to the coast of New Jersey, but the status of these plants in New Jersey is thus summarized by Dr. Witmer Stone.

"We can find no New Jersey specimens of *J. maritimus* or *J. roemerianus*, and their inclusion in the New Jersey flora seems to rest wholly upon a statement of Pursh (Fl. Amer. Sept. I. 235. 1814). He gives '*Juncus acutus* on the sandy seacoast New Jersey, &c.' In the first edition of Gray's Manual this record is quoted under *Juncus maritimus*, while in the fifth edition and earlier in Trans. St. Louis Acad. II. 439, 1866, Engelmann shows that the *J. maritimus* of American authors is really *J. roemerianus*, which he continues to cite from New Jersey. Prof. M. L. Fernald, who corroborates the above, also calls my attention to this statement by Englemann (Trans. St. Louis Acad. II. 490) — 'The New Jersey locality rests on the doubtful authority of Pursh; I have seen no specimens collected farther north than Wilmington, N. C.' As no one has found it in the State subsequently, I think we may safely expunge it from the list."<sup>1</sup>

<sup>1</sup> Stone, Pl. so. N. J. 330 (1912).

Now that we know on the south side of Cape Cod a unique relative of *Juncus maritimus* and *J. Roemerianus* it seems not impossible that Pursh really saw some member of this group on the New Jersey coast, although the station may now be obliterated. The stations of *J. maritimus* on Coney Island and of *J. pervetus* on Cape Cod are both so very limited that only a very mild degree of "improvement" would quickly obliterate the former from the flora of North America while the latter would as quickly become an extinct species.

GRAY HERBARIUM.

A FORM OF *SOLIDAGO SEMPERVIRENS* WITH WHITE RAYS. — Late in the season of 1915 there were brought to me two or three plants of the seaside golden rod the rays of which were creamy white, practically the same color as in *Solidago bicolor*. As these were gathered quite near the water at high tide, it seemed to me more than likely that the whiteness was the result of the spray dashing over the plants, although it is true that I did not find signs of it on the leaves.

This year (1916) I had an opportunity to examine the plants where they grow. They are at Isle au Haut, Maine. The particular colony where I have found the white-rayed form is composed of two hundred to two hundred and fifty plants, and the plants with the white rays grow mostly at one end of the patch, but they are scattered amongst the common yellow form in a way that precludes the possibility of spray having anything to do with the whiteness. Perhaps ten per cent of all the plants in this colony show the white rays.

This may be common elsewhere, but it has never happened to come to my notice. I should be glad to hear whether others have found the same form.— NATHANIEL T. KIDDER, Milton, Massachusetts.

*Vol. 18, no. 216, including pages 241 to 270 and title-page of the volume,  
was issued 1 December, 1916.*